JOB HAZARD ANALYSIS (JHA)

Business name

Document: JHA-001 Rev 1
Prepared: Nov 9, 2026
Review by: Dec 9, 2026
Highest risk after controls: Medium

1. BUSINESS AND JOB DETAILS

Job	Sewer and drain line replacement	**Start date**	Nov 9, 2026
Working hours	7:00 am to 3:30 pm	**Trade**	Plumbing

2. JOB STEPS, HAZARDS AND CONTROLS

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
1	Get 811 locates and locate services before digging	Hitting underground services Gas and fuel lines Electric shock from live wiring Rules: 29 CFR 1926.651(b) and your state 811 law; 29 CFR 1926 Subpart K	**Critical Possible / Fatality**	1.1 Keep machine buckets well clear of marked services and use a spotter. [Engineering (guarding)] 1.2 Scan the area with a cable locator before digging and mark services on the ground. [Engineering] 1.3 Hand dig or vacuum excavate to expose services before using a machine near them. [Engineering] 1.4 Call 811 before you dig and wait until all utilities have marked their lines. [Administrative] 1.5 Keep plans or locate tickets on site and check them again if the work area grows. [Administrative] 1.6 Support or protect exposed utilities so they cannot sag or break while the excavation is open (29 CFR 1926.651(b)(4)). [Administrative] 1.7 Isolate and purge the line before work, with the owner's approval. [Elimination] 1.8 Lock off and tag the isolation valve. [Engineering (guarding)] 1.9 Check for leaks with a gas detector before and during work, and ventilate the area. [Engineering] 1.10 Only licensed gas fitters work on gas lines. [Administrative] 1.11 Remove ignition sources: no smoking, no hot work and no sparking tools near the line. [Administrative] 1.12 Isolate the power before any work. Do not work live. [Elimination] 1.13 Lock out and tag the disconnecting means with your own personal lock and tag so the circuit cannot be energized (29 CFR 1926.417). [Engineering (guarding)] 1.14 Test before you touch: prove dead at the point of work with a tested voltage tester. [Engineering] 1.15 Only qualified persons work on or near exposed energized parts. [Administrative] 1.16 Check for back feeds from solar, batteries and generators that can keep a circuit live after the main switch is off. [Administrative]	**Medium Rare / Fatality**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
2	Cut and remove concrete or paving with water suppression	Silica dust from concrete, brick, stone and tiles Saw cuts and kickback Loud noise Rules: 29 CFR 1926.1153; 29 CFR 1926 Subpart I; 29 CFR 1926.52	**Critical Likely / Fatality**	2.1 Order materials cut to size, or use low-dust methods such as score and snap or a block splitter. [Substitution] 2.2 Cut outdoors or in a separate area, with other people well away and upwind. [Engineering (guarding)] 2.3 Use wet cutting or on-tool dust collection with a HEPA vacuum, as set out in Table 1 of 29 CFR 1926.1153. [Engineering] 2.4 Clean up with a vacuum or wet methods. Never dry sweep or use compressed air. [Administrative] 2.5 Have a written exposure control plan and a competent person for silica (29 CFR 1926.1153). [Administrative] 2.6 Workers who must wear a respirator 30 or more days a year get a free medical exam every 3 years (29 CFR 1926.1153(h)). [Administrative] 2.7 Wear the respirator Table 1 lists for the task: APF 10 (a fit-tested N95 or half mask) for most tasks, APF 25 (such as a loose-fitting PAPR) for tuckpointing with a handheld grinder for more than 4 hours a shift. [PPE] 2.8 Keep blade guards fitted and working, and use the riving knife on table saws. [Engineering] 2.9 Use push sticks and clamps, and support long pieces so they do not pinch the blade. [Engineering] 2.10 Use a sharp, undamaged blade made for the material. [Administrative] 2.11 Stand to one side of the blade line, out of the kickback path. [Administrative] 2.12 Let the blade stop fully before reaching in or putting the saw down. [Administrative] 2.13 Use quieter tools and methods, such as cut-to-size materials, low-noise machines and battery tools. [Substitution] 2.14 Keep noisy plant away from work areas, and use screens or distance between the noise and people. [Engineering (guarding)] 2.15 Keep tools maintained and use mufflers on compressors and generators. [Engineering] 2.16 Limit time on noisy tools and rotate workers. [Administrative] 2.17 If you have to shout to be heard at arm's length, wear hearing protection. [Administrative]	**Medium Unlikely / Serious injury**	Site supervisor
3	Excavate the trench, shoring or benching it if deeper than allowed	Trench or excavation collapse Being hit by heavy equipment Falling through a floor opening or void Rules: 29 CFR 1926 Subpart P; 29 CFR 1926 Subpart O; 29 CFR 1926 Subpart M	**Critical Possible / Fatality**	3.1 Use methods that keep people out of the trench, such as directional boring or working from the surface. [Elimination] 3.2 Barricade or cover the excavation so people and equipment cannot fall in. Use guardrails on walkways that cross it (29 CFR 1926.651(l)). [Engineering (guarding)] 3.3 Use a protective system (sloping, shoring or a trench box) in any trench 5 feet or deeper, or shallower if the competent person sees signs of a possible cave-in (29 CFR 1926.652). [Engineering]	**Medium Rare / Fatality**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				3.4 Protective systems for trenches over 20 feet deep are designed by a registered professional engineer (29 CFR 1926.652(b), (c)). [Engineering] 3.5 Keep spoil, materials and equipment at least 2 feet back from the edge. [Engineering] 3.6 Provide a ladder, stairway or ramp within 25 feet of workers in trenches 4 feet or deeper. [Engineering] 3.7 Competent person inspects the trench daily, after rain and as conditions change, and tests the air before entry in trenches over 4 feet deep where a hazardous atmosphere could exist (29 CFR 1926.651(g), (k)). [Administrative] 3.8 Nobody works in a trench where water is collecting unless the competent person has controls in place, such as pumping or special support (29 CFR 1926.651(h)). [Administrative] 3.9 Nobody stands under a loaded bucket or near a truck being loaded (29 CFR 1926.651(e)). [Administrative] 3.10 Separate people and equipment with barriers, exclusion zones and marked walkways. [Engineering (guarding)] 3.11 Use equipment with working backup alarms, cameras and lights. [Engineering] 3.12 Have a site traffic plan showing equipment routes, loading areas and pedestrian paths. [Administrative] 3.13 Use a spotter when backing up or working near people. [Administrative] 3.14 Make eye contact with the operator before going near. Stay out of the swing radius. [Administrative] 3.15 Cover every hole with a secured cover marked "HOLE" or "COVER" that can hold twice the weight it may carry. [Engineering (guarding)] 3.16 Put guardrails with toe boards around stairwells, elevator shafts, floor holes and open edges. [Engineering (guarding)] 3.17 Install stairs early and fit temporary handrails as soon as they go in. [Engineering] 3.18 Never remove a cover or guardrail without approval. Put it back straight away. [Administrative] 3.19 Inspect covers and barriers daily and after other trades have been through. [Administrative]		
4	Cut out the broken pipe, wearing gloves and washing hands often	Sewage and wastewater Cuts from sharp edges	**Medium Possible / Recordable / lost time**	4.1 Flush and drain the line before opening it, and plan the job to avoid contact. [Elimination] 4.2 Use drain cameras, jetters and long-handled tools to keep hands out. [Engineering] 4.3 Cover cuts with waterproof dressings. Never eat, drink or smoke before washing. [Administrative] 4.4 Wash hands well and clean tools and boots after the job. [Administrative] 4.5 Keep vaccinations such as tetanus and hepatitis A up to date, on medical advice. [Administrative]	**Low Unlikely / Minor injury**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				4.6 Wear waterproof gloves, goggles or a face shield, and coveralls. [PPE] 4.7 Deburr or cover sharp edges, and fit edge protectors on exposed sheet metal. [Engineering] 4.8 Use knives with retractable or self-retracting blades. [Engineering] 4.9 Cut away from your body and keep your other hand clear. [Administrative] 4.10 Put used blades in a blade bin or sharps container. [Administrative] 4.11 Use two people to handle large sheets of metal or glass. [Administrative] 4.12 Wear cut-resistant gloves and long sleeves. [PPE]		
5	Lay and join the new pipe to grade, then test the line	Lifting and carrying heavy loads Pressure testing	**High Likely / Recordable / lost time**	5.1 Plan to avoid carrying: have materials delivered, and old items picked up, as close as possible to where they are used. [Elimination] 5.2 Use lighter or smaller loads: order smaller bags and shorter lengths, and drain or break down old items before moving them. [Substitution] 5.3 Use trolleys, pallet jacks, hoists, vacuum lifters or plant instead of carrying by hand. [Engineering] 5.4 Use a two-person lift for anything heavy, long or awkward. Plan the route first and clear it. [Administrative] 5.5 Keep the load close, back straight and no twisting. Turn with your feet. [Administrative] 5.6 Rotate tasks and take breaks on long lifting jobs. [Administrative] 5.7 Wear gloves for grip and safety boots to protect your feet. [PPE] 5.8 Test with water instead of air or gas where the system allows it. Never put water in refrigerant pipework, which is tested with dry nitrogen. [Substitution] 5.9 Keep people out of the test area with signs and barriers. [Engineering (guarding)] 5.10 Use a calibrated gauge and a relief valve set to protect the system. [Engineering] 5.11 Test to the pressure the system calls for and hold it for the set time. Never go over. [Administrative] 5.12 Release the pressure fully before tightening anything or fixing leaks. [Administrative] 5.13 Wear safety glasses or a face shield. [PPE]	**Medium Unlikely / Recordable / lost time**	Site supervisor
6	Backfill and compact in layers, reinstate the surface and clean up	Hand-arm and whole-body vibration Loud noise Poor housekeeping and waste Rules: 29 CFR 1926.52	**High Likely / Recordable / lost time**	6.1 Use low-vibration tools and methods, such as a breaker on an excavator instead of a hand jackhammer. [Substitution] 6.2 Keep tools sharp and well maintained, and use anti-vibration handles and seats. [Engineering] 6.3 Limit trigger time on high-vibration tools and rotate workers. [Administrative] 6.4 Keep hands warm and dry, and take regular breaks.	**Medium Unlikely / Recordable / lost time**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				[Administrative] 6.5 Report tingling, numbness or white fingers early. [Administrative] 6.6 Wear earplugs or earmuffs rated for the noise. [PPE] 6.7 Loud noise: see step 2 for the full controls [Administrative] 6.8 Order materials to size and send packaging back where you can. [Elimination] 6.9 Put dumpsters and waste chutes close to the work. [Engineering] 6.10 Clean as you go, and do a full clean up at the end of each day. [Administrative] 6.11 Keep exits, stairs and walkways clear at all times. [Administrative] 6.12 Stack materials neatly on level ground, away from edges. [Administrative]		

Risk key: risk = likelihood x consequence on a 5 x 5 matrix. Low, Medium, High, Critical. Work must not start while the risk after controls is high or above. Controls are listed in order of the hierarchy of controls: Elimination, Substitution, Engineering (guarding), Engineering, Administrative, PPE.

3. PPE AND PERMITS

Required PPE	Permits and plans
Safety-toe boots (ASTM F2413) High-visibility safety apparel, ANSI/ISEA 107 Class 2 or 3 (Type R near roadways) Chemical-resistant gloves Safety glasses (ANSI Z87.1) Hearing protection (earmuffs or plugs) N95 respirator Half-face respirator (P100 cartridges) Hard hat (ANSI Z89.1) Safety goggles (ANSI Z87.1) Face shield (ANSI Z87.1) Coveralls Cut-resistant gloves Work gloves	811 locate ticket / excavation permit

4. PLANT AND EQUIPMENT

Plant / equipment	License or training needed	Inspection needed	Rego / ID	Last inspected	Certificate / report
Excavator					
Hand tools					
Concrete saw (cut-off saw)					

Plant / equipment	License or training needed	Inspection needed	Rego / ID	Last inspected	Certificate / report
Plate compactor					
Sewer jetter					

5. TRAINING REQUIRED FOR THIS WORK

- Qualified person training for work on or near exposed energized parts (29 CFR 1926.416, NFPA 70E)
- Silica training on the exposure control plan and Table 1 controls (29 CFR 1926.1153(i)); respirator fit test and medical evaluation (29 CFR 1910.134)
- Competent person for excavations, trained in soil classification and protective systems (29 CFR 1926.651(k), 1926.652)
- Equipment operator training (29 CFR 1926.20(b)(4)); forklift and telehandler operators trained, evaluated and certified, re-evaluated every 3 years (29 CFR 1910.178(l))
- Fall protection training by a competent person, with a written certification record (29 CFR 1926.503)

6. CREW TRAINING AND CERTIFICATIONS

Crew listed at sign-on below, with ticket and licence numbers.

7. EMERGENCY ARRANGEMENTS

Emergency number	911	**First aid kit**	In the work vehicle
Fire extinguisher	In the work vehicle	**Alarm and evacuation**	Shout for help and stop work. Make the area safe and go to the assembly point. Call the emergency number and send someone to meet the ambulance.
Reporting incidents	Report a fatality to OSHA within 8 hours, and an in-patient hospitalization, amputation or eye loss within 24 hours.		

8. MONITORING, REVIEW AND LEGAL BASIS

A competent person inspects the job site, materials and equipment before work each day and as conditions change (29 CFR 1926.20(b)(2)). Any time this JHA is revised, the affected crew is re-briefed and signs again.

Legal basis: OSH Act Section 5(a)(1) and 29 CFR 1926, Safety and Health Regulations for Construction (incl. 1926.20 and 1926.21). OSHA requires employers to find and fix hazards and to train workers on them. A JHA breaks the job into steps, lists the hazards in each step and the controls that protect the crew. General contractors often require one before you start.

Keep this JHA on site during the job, and keep it with the training and inspection records for at least 1 year after the job (longer if your state plan or general contractor requires it). OSHA does not set a retention period for JHAs themselves.

9. REVISION HISTORY

Rev	Date	By	What changed
1	Nov 9, 2026		First issue

Rev	Date	By	What changed

10. SIGN-OFF

	Name	Signature	Date	
Prepared by				
Supervisor				
General contractor review				Accepted for use: Yes / No

By signing below, each crew member confirms they were trained on the hazards and controls in this JHA before work started, and will follow it. Stop work and tell the supervisor if conditions change.

Name	Role / company	Tickets / licences	Signature	Date

Name	Role / company	Tickets / licences	Signature	Date